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journal or publication title	The Journal of Konan University. Faculty of Letters
volume	160
page range	113-121
year	2010-03-30
URL	<a href="http://doi.org/10.14990/00000990">http://doi.org/10.14990/00000990</a>

# Non-restrictive Relative Clauses and Force\*

Kaneaki Arimura

## 1. Introduction

There is an abundant amount of literature that notes peculiar syntactic behaviors of the English non-restrictive relative clause (NRC, hereafter) (McCawley (1998), Emonds (1979), Jackendoff (1977), de Vries (2006) among others)<sup>1)</sup>. In this paper I argue that an NRC is a clause in which topicalization occurs in a somewhat disguised way, on the basis of the fact that it can be interrogative or even imperative—a fact that is impossible with the restrictive relative clause (RRC, hereafter). This means that the RRC only selects (or co-occurs with) a proposition with declarative force whereas the NRC is not subject to this restriction. The difference of selection is reflected in the constituent structure; that is, the RRC forms a syntactic constituent with its antecedent, whereas the NRC counterpart does not. In other words, the former is embedded in the NP antecedent and hence no choice of force other than the declarative, while the latter forms an independent constituent at some level of representation and hence there is no restriction with respect to the choice of category and no selectional restriction of force.

This paper is organized as follows. After reviewing McCawley's observations in Section 2, I shall discuss the nature of topicalization in the NRC in Section 3. I also observe the interesting main clause phenomena of the NRC in Section 4. Section 5 is a discussion about the coordinate structure analysis proposed by Emonds (1969). Finally, in Section 6, I shall propose the derivation of the NRC on the basis of the cartographical point of view (Rizzi, 2000).

## 2. McCawley's observations

McCawley (1998, pp. 445–448) points out 14 characteristic properties of NRC that are not shared by the restrictive counterpart.

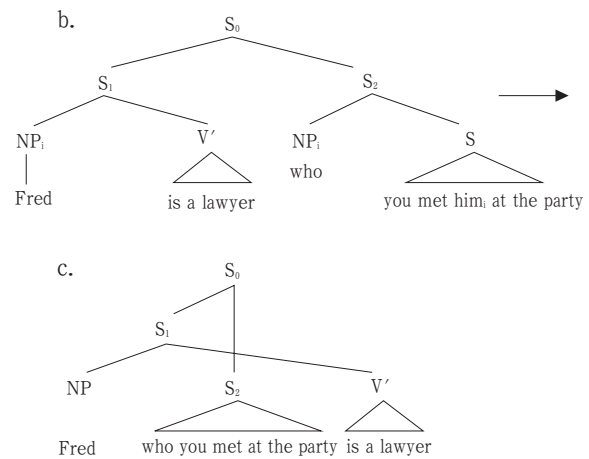
- (i) NRCs are not generally headed by *that* or the zero-relative.
- (ii) They allow the relative expression to have their own head noun (e. g. William Allen White spent virtually his entire life as publisher and editor of the Emporia (Kansas) Gazette, *from which unlikely spot* he radiated an enormous influence ...).
- (iii) They do not have infinitival form (e. g. \*This is Fred Honer, *to whom to spend* your receipts).
- (iv) They cannot have particular nouns as their antecedent (unpronominalizable color terms, for example) as opposed to the restrictive relative clauses (e. g. \*I can't stand *the color yellow, which Bill painted his car*. Vs. I can't stand *the color which/that Bill painted his car*)<sup>2)</sup>.
- (v) Unlike RRCs, NRCs and their antecedents do not form a syntactic constituent, so that *one* pronominalization does not include the non-restrictive relative clauses. Hence in a sentence like *Tom has a violin, which once belonged to Heifetz, and Jane has one too*, the pronoun *one* only refers to *a violin* but not to *a violin that once belonged to Heifetz*.
- (vi) They cannot be combined with quantified expressions (e. g. \**Everyone, who attended the party, had a good time*).
- (vii) They impose no categorial restriction on the choice of antecedents; sentences (or propositions), verbs, adjectives or proper nouns, as opposed to the RRCs whose antecedents are only limited to nouns.
- (viii) They are not subject to extraposition (e. g.

\**Mercia* has just arrived, *who you wanted to meet*).

- (ix) They cannot be stacked (e. g. ??*Sam Bronowski, who took the qualifying exam, who failed it*, wants to retake it).
- (x) When both types of relative clauses co-occur, the RRCs have to precede the NRC counterparts (e. g. *The contestant who won first prize, who is the judge's brother-in-law*, sang dreadfully. [the RRC-NRC order] vs \**The contestant, who is the judge's brother-in-law, who won first prize* sang dreadfully [the NRC-NRC order]).
- (xi) Only non-restrictive relative clauses can host interrogative tags (e. g. *Marcia, who you wanted to meet, didn't you?*, has just arrived. vs. \**The violin on which Heifetz recorded the Elgar cencerto, didn't he?* has been donated to the Smithonian Institution).
- (xii) Non-restrictive clauses, but not restrictive clauses, take “comma intonation.”
- (xiii) The relative pronoun of a non-restrictive relative clause on a predicate NP is interpreted as referring to the property expressed by the predicate nominal whereas the non-restrictive relative pronoun identifies the entity of the nominal (notice the choice of the relative pronouns) e. g. John is *a lawyer who* (\**which*) *wins every case*. vs. John is a *lawyer, which* (\**who*) *his father is too*.
- (xiv) A non-restrictive clause is separate from the speech act of the main clause. For example, the non-restrictive clause in *Has John, who was talking to Mary a minute ago, gone home?* is not a part of the question and hence the sentence is equivalent to two independent sentences *Has John gone home? He was talking to Mary a minute ago.*<sup>3)</sup>

On the basis of the facts above McCawley proposes the syntactic structure (1) below. Notice that there is a coreferential pronoun (*him*) in the underlying structure in (1b) and it is replaced by the relative pronoun (*who*), which subsequently moves to the pre-S position (McCawley 1998, p. 449).

- (1) a. Fred, who you met at the party, is a lawyer.



According to McCawley, NRCs are “separate main clauses in deep structure” (p. 452) and “moved into a position adjacent to a target (i. e. antecedent)” but “not combined with the target into a larger constituent” (p. 451)<sup>4)</sup>. This correctly captures the relationship between pronominalizability and NRC formation: the NP expression that cannot be replaced by a pronoun cannot be the antecedent of the NRC (see Note 1). He says that coreferentiality must hold in both the target and the NRC in order for the NRC to be grammatical. This is achieved by coindexing the two NP<sub>i</sub>s in S1 and S2 above. The NRC with such an index is moved to the position which is occupied by the category that bears the same index. In this sense, the NRCs look as if they were embedded although they are actually considered to be a “main” clause. This peculiarity leads me to call NRCs “fake” main clause.

Despite the insight that McCawley’s analysis offers, there are some problems. First, this analysis tacitly assumes that nothing dominated by S1 c-commands anything in S2 (i. e. NRC), whatever the definition of c-command. This means that there should be no condition C effect observed, whereas the opposite is true.

- (2) a. *John* bought a violin, which *he* thought once belonged to Heifetz.

b. *He* bought a violin, which *John* thought once belonged to Heifetz.

The pronominal dependency in (2a) poses no problem, because there is no c-command relationship between *John* and *he* (the R-expression (*John*) is not c-commanded by anything). But there is no interpretation in (2b) of *he* and *John* being taken to be coreferential.

This fact is only accounted for if we assume that there is some form of c-command relationship between the two.

The second problem is the interpretation of the NRC. As will be argued below, a salient property of the construction is a close relationship with topicalization as was mentioned by Emonds (1979, p. 225). McCawley assumes that wh-movement takes place in the NRC, as we saw above. However he states elsewhere (p. 492) that topicalization and wh-movement tend to be mutually exclusive as in (3).

- (3) a. ??Fred asked whether the skates John put in the closet.  
b. \*Fred asked where the skates John had put.

It seems that the interrogative complement clause exhibits its resistance against the co-occurrence of topicalization. However, there is a case in which wh-question is possible within an NRC. The following example is a representative case.

- (4) ... unless the Instigator wants an absurd debate, *in which case, who are we to stop him?*  
(<http://www.debate.org/debates/Definitions-posted-by-the-Instigator-in-Round-1-should-be-treated-more-like-rules-than-contentions/1/>)

This phenomenon is beyond McCawley's framework. Even if he assumes that the NRC is a special case of topicalization, the grammatically possible case in (4) cannot be explained.

### 3. An NRC as topicalization

Let us consider the facts (iv) and (vi) that were pointed out by McCawley. The fact identified in (iv) was originally discovered by Postal (1994), when he pointed out the correlation between the pronominal status and the possibility of NRC; that is, the unpronominalizable nouns cannot be the antecedent of the NRC.

- (5) a. He painted the car green. → \**Green<sub>i</sub>*, he never painted the car *t<sub>i</sub>*. (Postal 1999, p. 27)  
b. \*I can't stand *the color yellow<sub>i</sub>*, which Bill painted his car. (McCawley 1998, p. 445)  
(6) \*(They wanted their porch *green<sub>i</sub>* but) I refused to paint mine *it<sub>i</sub>*. (Postal 1999, p. 33)

These phenomena seem to suggest that pronominalizability is deeply related to the topicalizability and the possibility of RNC. If we assume, as I believe many people

have assumed, that topicalization is based on definitizability and definitizability is a precondition for pronominalizability, the fact that the color term in (6) cannot be replaced by a definite pronoun turns out to be responsible for the impossibility of topicalization in (5a) and the failure of the relevant noun to be the antecedent of the NRC<sup>5</sup>.

On the basis of these facts we make the following generalization: what can be pronominalizable and topicalizable can be the antecedent of the NRC. Then it is no wonder that predicate nominals or color terms cannot be the antecedent of the NRC. The reason is simply that they cannot be replaced by the definite pronoun.

McCawley also points out that NRCs allow the relative expression to have their own head noun: *William Allen White spent virtually his entire life as publisher and editor of the Emporia (Kansas) Gazette, from which unlikely spot he radiated an enormous influence ...* Here pied piping takes place in two ways; not only the preposition but also the object of the preposition is pied piped. Pesetsky (1987, 109) refers to this type wh-movement as "discourse-linked (D-linked)" and observes that D-linked wh-phrases do not have the properties that are attributed to genuine non-D-linked wh-words. NRCs allow discourse connectivity more freely than RRCs: for example,

- (7) At length, however, I obtained permission to reside a few weeks at a Roman Catholic mission near the centre of the island, *from which place*, called 'Bakit Tima,' I now write.

This example shows that the NR wh-phrase *from which place* has strong discourse connectivity with the preceding antecedent *the centre of the island*. This is what allows us to take the NRC as a special case of topicalization, topicalization itself requiring the strong discourse dependency. In addition to the case above, NRCs exhibit a large scale of pied piping—examples of which are documented by Ross (1967). Furthermore, we have an example with PP pied piping where it should more easily be understood as a continuation from the preceding "main" clause and the "relative" pronoun of the NRC may well be taken as a discourse marker that signals the topichood. In this sense, the following example is suggestive.

- (8) Sutter always called his colony and fort "New

Helvetia,” *in spite of which* the name mostly used by others, before the Mexican war, was Sutter’s Fort, or Sacramento, and later Sacramento altogether. (www.sfmuseum.org/bio/sutter.html)

In this sentence the NRC could be rephrased as “in spite of this (i. e. Sutter always called his colony and for “New Helvetia”) the name ... was Sutter’s Fort, or Sacramento, and later Sacramento altogether.” We perceive no quantificational meaning in the “relative” pronoun *which*, but rather it seems to be merely a connector of the preceding clause and the following clause.

This interpretation of the NRC is reinforced by sentence (9).

- (9) The handicraftsman therefore frees himself by becoming either bourgeois or entering the middle class in general, or becoming a proletarian because of competition (as is now more often the case). *In which case* he can free himself by joining the proletarian movement, i. e., the more or less communist movement. (<http://www.marxists.org/archive/marx/works/1847/11/prin-com.htm>)

This may be a somewhat unusual case of the NRC in that the NRC is independent from the preceding antecedent clause, but this shows that there is no syntactic relation between the antecedent and the “relative pronoun.” “In which case” in the NRC here is to be interpreted as a discourse connective just like “In this case” without any quantificational force.

Finally, let us look at the lack of weak crossover effects in the NRC. Safir (1986, p. 667) notices, on the basis of the fact below, that “weak crossover effects are not found” in the NRC.

- (10) a. John, who his wife love, arrived early.  
b. John<sub>i</sub>, [who his<sub>i</sub> wife loves [e<sub>i</sub>]], arrived early.  
This should be contrasted with the RRC.  
(11) a. \*A man who his wife loves arrived early.  
b. A man<sub>i</sub> [who his<sub>i</sub> wife loves [e<sub>i</sub>]] arrived early.

The weak crossover effect arises when a non-commanding pronoun functions as an antecedent of the variable. The fact that, although the binding relation is entirely the same, the result is grammatical in the NRC leads Safir to the conclusion that re-indexing takes place at different levels with respect to the RRC and the NRC: at LF in the former case and at LF’ (a level later than LF) in the latter case. Technical details aside, I take this

weak crossover fact to suggest that the wh-phrase of the NRC is not a true quantifier which shows weak crossover effects. Furthermore, the lack of weak crossover effects is observed not only in the NRC but also in topicalization, as was pointed out by Lasnik and Stowell (1991, p. 222).

- (12) a. ?John<sub>i</sub>, I have never asked his<sub>i</sub> mother to talk to t<sub>i</sub>.  
b. \*Who<sub>i</sub> does his<sub>i</sub> mother love t<sub>i</sub>?

This fact is not surprising anymore, given the assumption that the NRC is a special case of topicalization. In conclusion, the variable left behind by the RRC and the interrogative wh-movement is quantificational, but that left behind by the NRC and topicalization is not quantificational<sup>6</sup>.

From these observations, I should like to conclude that the NRC is a topicalization, which serves as a discourse connector between the antecedent and the clause. We may safely be able to argue that the wh-phrase in the NRC is not a wh-phrase in the usual sense of the word: I should like to refer to the “relative pronoun” of the NRC as a fake wh-phrase, which superficially looks like a genuine restrictive wh-phrase or interrogative wh-phrase. It undergoes A’-movement, it is true, but its landing site is entirely different from the normal wh-movement case, a topic to which we will immediately come back later in Section 6.

#### 4. An NRC as a main clause

It has long been noted in the literature that an NRC bears resemblance with the main clause as opposed to the RRC whose function is decidedly to signal the embedding relation. Here I should like take note of the illocutionary force of the NRC. The RRC never allows sentence types other than [+declarative]. The RRC’s semantic function is to reduce the set that is denoted by the antecedent noun and is only compatible with the declarative. On the other hand, if we assume that the NRC is a main clause, then it is not surprising to find that the NRC does occur in sentence types other than declarative. One piece of evidence is provided by McCawley (the 11th fact listed above): “only non-restrictive relative clauses can host interrogative tags.” He cites the following pair of sentences.

- (13) a. Marcia, who you wanted to meet, *didn’t you*?,

has just arrived.

- b. \*The violin on which Heifetz recorded the Elgar cencerto, *didn't he?* has been donated to the Smithonian Institution.

Further evidence for the main clause properties comes from (14).

- (14) We'll provide them [the refugees] with their own ... land and power. And, *in addition to which, what will it do for Japan?* (<http://www.pbs.org/wgbh/sugihara/readings/kranzler.html>)

Here the italicized part in the NRC, which is the case of the independent use of the “relative pronoun” (which we noted just above), contains a genuine wh-interrogative accompanied by the Subject Aux Inversion. Presumably there is no reason why we should take the pied piped wh-phrase *in addition to which* to be a genuine wh-operator any more. The sentence could equally have been rephrased as *And, in addition to that, what will it do for Japan?* This clearly points to the main clause nature of the NRC. Moreover, the NRC in (15) below contains an interrogative form, but the preceding clauses are an indirect report by the speaker. The following sentences are better termed as “free indirect speech”—a phenomenon in which the reported speech looks as if it were an independent piece of main speech.

- (15) I wondered: how long could you and I walk each night? Could you walk beyond the exertion of your body, *in which case*, would you not know when to stop walking? Would you ignore your destination for the pleasure of traveling? Would I, too, relinquish my body to motion? Would we permit it? ([http://www.poetrysociety.org/psa/poetry/crossroads/new\\_american\\_poets/jennifer\\_chang/](http://www.poetrysociety.org/psa/poetry/crossroads/new_american_poets/jennifer_chang/))

Here all the interrogative clauses are to be interpreted as embedded complements of the proposition *I wondered* but they apparently look as if they were independent main clauses. The co-occurrence of the interrogative is very peculiar to the NRCs.

The NRC also co-occurs with an imperative sentence. This is one of the properties that distinguish it from the RRC where it is next to impossible to accommodate the imperative.

- (16) a. If there is an infection, it might cause fever, at which point *please see the doctor*. (<http://www.mahalo.com/answers/body-art/homemade-tattoo->

*care-please-help*)

- b. He said he would show a few slides towards the end of his talk, at which point *please remember to dim the light*. (Pullum and Huddleston, 2002, 1061)

The NRC portion in (16b) is part of utterance of the individual referred by *he*. It has a flavor of the free indirect style, but it would have been more strongly felt if the sentence had been separated into two independent parts: *He said he would show a few slides towards the end of his talk. At which point please remember to dim the light*. In this case, the one who is responsible for the imperative is *he* but not the speaker of the sentence.

In this subsection we have been concerned with the properties of the NRC that should be attributed to the main clause. To this we might add the topic nature of the NRC. If the NRC is taken to be a special case of topicalization, then it is natural that we should consider it to have the main clause character, because topicalization is not permitted in the true factive complement (17a), the appositive clause (17b) or the subject *that*-clause (17c).

- (17) a. \*John regretted that *Gone with the Wind*, we went to see. (Müller and Sternefeld, 1993, p. 483)  
b. \*John's belief that *the Geography course*, Bill really wanted to take is unfortunate. (Stowell, 1981, p. 153/272)  
c. \*That *this book*, Mary read thoroughly is true. (Müller and Sternefeld, 1993, p. 483)

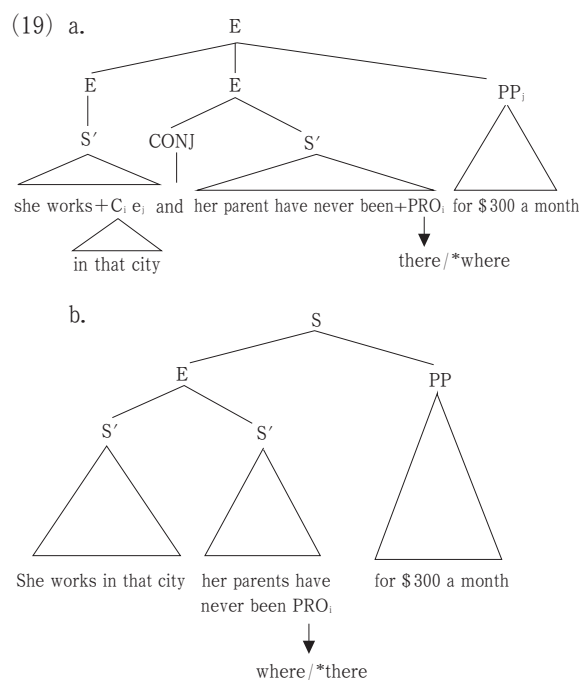
If the NRC was a true embedded clause on a par with the RRC, then it would be difficult to account for its properties of topicalization. We agree with McCawley and Emonds in assuming that the NRC is an independent main clause.

## 5. An NRC as a coordinate and appositive structure

In this section we will examine Emonds's (1979) analysis of the NRC in terms of coordination and apposition. Emonds says that the following RNC in (18c) is derived from the underlying string in (18a) through the intermediate step (18b), in which the PP adjunct *for \$300 a month* is right-adjoined to the topmost layer called E.

- (18) a. She works in that city for \$300 a month, and her parents have never been there. (Underlying coordinate structure)
- b. She works in that city, [and her parents have never been PRO], for \$300 a month. (Coordinate parenthetical structure)
- c. She works in that city, [where her parents have never been t], for \$300 a month. (Appositive relative clause)

The PRO in (18b) is changed to a wh-expression, which subsequently moves to (and replaces) the coordinating conjunction (CONJ) and finally (18c) is derived. The derivational steps are shown in (19a-b).



The category E stands for an “Expression” in the sense of Barnfield (1982), and it is defined as “initial symbol of the base which cannot be subordinated” (Emonds 1974, p. 215). Hence the presence of E and CONJ in (19a) is a reflection of Emonds’s view that the NRC is a main clause with the conjunctive nature.

If we replace PRO<sub>i</sub> with *there* then we will obtain the coordinate parenthetical expression (18b). However when *where* is substituted for PRO<sub>i</sub>, it has to move to the top position of the clause (as a way of greed or whatever). The derivation of (19a) to (19b) is mediated by what Emonds (p. 216) calls “S’-Attachment,” which is defined as (20).

- (20) C<sub>i</sub> – CONJ – S’ ⇒ 1 + 3 – 0 – 0  
 where S’ contains PRO<sub>i</sub>.

This rule specifically refers to a constituent C in (19a), C standing for “a full phrasal constituent” (i. e. E, S’, perhaps S, and any maximal projection of the lexical categories of the bar (prime) notation). In other words, C is whatever can be an antecedent of the NRC. (20) states that S’ (what is to be eventually an NRC) is adjoined to C under the condition that the S’ contain PRO, which is co-indexed with some constituent C. Notice that the output of the rule (20) is as is shown in (19b), in which the relevant S’ (*her parents have never been where*) is appended under the some projection of E, but not directly under the PP (*in that city*). This is because of the cyclic nature of the rule application (what is now known as Strict Cyclic Condition).

Part of Emonds’s analysis, that is, the assumption that the NRC is a special case of coordinate structure, is inherited by de Vries (2006). De Vries says that NRCs (the appositive relative clauses, to him) “are extended apposition,” or “false free relatives (with an empty head) that are in apposition to the antecedent” (p. 267). On the other hand, there is an analysis of the NRC as a subordinate clause which incorporates the appositive structure analysis. For example, Canac-Marquis and Tremblay (1998) argue that there is no particular distinction between the NRC and RRC except that the form is headed by an empty appositive head. Focusing on the coordinate structure analysis and the empty head analysis of the NRC, let us examine the NRC facts we already discussed; (12a) where a tag question occurs, (13) where wh-question occurs, and (15b) where imperative occurs. The representative examples are repeated here for the sake of easiness of reference.

- (21) a. Marcia, who you wanted to meet, *didn’t you?*, has just arrived. (13a)
- b. And, *in addition to which*, *what will it do for Japan?* (14)
- c. He said he would show a few slides towards the end of his talk, at which point *please remember to dim the light*. (16b)

It seems quite dubious to apply both of the analyses to these cases. For example, how is it possible to associate the case in (21c) above to a coordinate structure or an appositive expression with an empty head?

- (22) a. He said he would show a few slides towards the end of his talk, and *please remember to dim the*



*light* PRO<sub>i</sub>.

- b. He said he would show a few slides towards the end of his talk, [ e ] at which point *please remember to dim the light*. (e=the end of his talk)

No coherent outcomes for (21a-c) would be obtained. It seems that the coordinate structure analysis does not make sense in (22). Moreover, the appositive interpretation does not seem to stand here either.

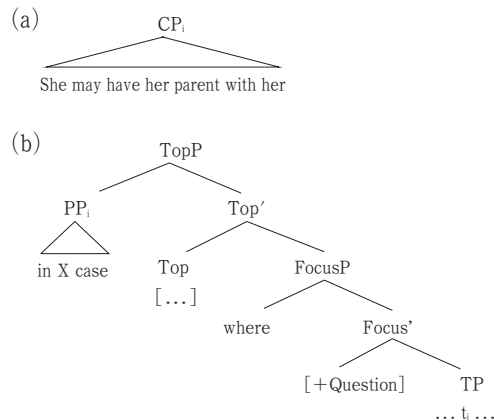
## 6. The generalized transformation and the cartographic analysis

In this section I shall present an analysis based on generalized transformation—an idea that was shown by Safir (1986, pp. 672ff.) who dubbed a term “orphan constituent.” An orphan constituent is an independent constituent that is to be attached to a main clause at the level of LF, or otherwise it would be ruled out as a “free standing” ungrammatical sentence. But I am rather skeptical of Safir’s analysis at least in two respects: (i) occurrences of the NRC with interrogative or imperative force and (ii) the type of NRC that is not directly connected with the antecedent clause as in (11). These two points, as we saw above, show the topic nature of the (pied piped) wh-phrases of the NRC, and hence there seems to be no way to account for the facts without assuming that topicalization is involved in the NRC.

Now, let us assume that the wh-phrase of the NRC is a topic; that is, the NRC is the result of topicalization. According to Emonds (1976), topicalization is a transformation that is limited to a root sentence. Coupled with the assumption that the NRC is a special case of topicalization, NRC formation is a root phenomenon—hence supporting the main clause analysis at the same time. Moreover, the main clause is a clause in which there is no special restriction against the applications of particular rules. However, the NRC has another aspect of being an embedded sentence, as evidenced by the presence of the condition C effects in (2). This is a puzzling situation: the NRC being an independent main clause and being an embedded clause. But viewed from a different perspective, this inconsistent nature is what characterizes the NRC<sup>7)</sup>.

Following Rizzi’s (2002) cartographic approach, I take a sentence like (23) to be formed as follows.

- (23) She may have her parents with her, in which case where am I going to sleep?  
(Pullum and Huddleston (2002, p. 1061)).



If the two structures were independent with each other, then a sentence like “She may have her parents with her. In that case where am I going to sleep?” could have been produced. The TopP of (23b) is adjoined to the CP in (23a), leading to the NRC structure. This adjoining operation must take place before Spell-Out, because otherwise both would be treated as separate syntactic objects by PF. I omit the discussions about the details of the operations mentioned here for the sake of brevity.

Before the two structures are adjoined the PP (*in X case*) has to be moved to Spec,TopP. We could assume, as Emonds (1976) apparently did, that topicalization occurs to form the b-structure via wh-movement. Indeed, an abundant array of facts point to the conclusion that topicalization is a result of some A'-movement, but this fact does not necessarily guarantee the conclusion that topicalization is a special case of wh-movement. The special status of the NRC is clearly reflected in sentences like (9). In this case the preceding possible antecedent and the following relative clause do not depend on each other. They are two independent clauses, with the PP *In which case* being the head of the second sentence. Thus the wh-phrase *in which case* may not be taken as a wh-relative pronoun in the strict sense of the word, but rather as a topic phrase that has the function of bridging the two structures.

The interpretation that is to be obtained from this is different from ordinary NRs in that the structure below the FocusP is interpreted as an indirect speech—or free indirect speech (notice that the NR occurs in the context introduced by *He said* in (1a)). Moreover, it is signifi-



cant to note that the type of NRs in (1) is observed when the NR “relative” phrases are *according to which*, *in which case*, *under which*, etc.—a set of phrases which might be called discourse connectives. The source of this interpretation might be the presence of [–Declarative] feature (that is [+Q] or [+Imperative]) which should be incompatible with ordinary relative clauses.

Now we have to answer a possible question of where the two independent clauses are combined. I assume that the two structures are consistently independent until LF, but they are combined after Spell-Out level. That is, they form a single conglomeration because of the needs of pronunciation. The assumption that the two sentences are independent in the syntax helps us to explain the impossibility of extraction out of the NRC.

(24) a. I know the guy, who was reading Moby Dick.

→

\*What<sub>i</sub> do you know the guy, who was reading t<sub>i</sub>.

b. \*John is a man whoi Bill, who knows e<sub>i</sub>, admires t<sub>i</sub>. (Safir 1986, p. 673)

Given the assumption that the NRC is not connected to the “main” clause in the syntax where wh-movement takes place, the ungrammaticality in (24) can naturally be interpreted: that is, inter-arboreal dependency violates the fundamental tenets of syntactic structures<sup>8)</sup>.

\* This paper is an extension of the paper which was read at the workshop of the Konan English Literary Society under the title “On Unexpected Phenomena in Embedded Sentences” in June 27, 2009. This study is partly supported by the Grant-in-Aid of the Japan Society for the Promotion of Science (No.19320071).

### Notes

1) A non-restrictive relative clause is often referred to as an appositive relative clause or as a comment clause. Each terminology is motivated by respective theoretical persuasion, but in this paper I shall continue to use the more familiar term.

2) This was originally noted by Postal (1994). Postal’s insight is to connect the relativizability with the possibility of a coreferential (resumptive) pronoun referring back to the noun. For example, the color term (or, the secondary predicate) cannot be a pronoun in the example above as in \**Mary’s car was painted yellow, and Bill’s car*

*was painted it/that too*. For this point, see my 2002 review article.

3) We may add the following adverb fact to this list.

(i) a. Soon after this the Byzantine commander Belisarius garrisoned the city of Rome, which was, *however*, besieged again by the Goths.

([http://en.wikipedia.org/wiki/Health\\_of\\_Pope\\_John\\_Paul\\_II](http://en.wikipedia.org/wiki/Health_of_Pope_John_Paul_II))

b. ...because the world’s greatest military power, which was *moreover* at that time openly revolutionary-minded, had now entered the political arena.

(<http://www.nizkor.org/hweb/imt/tgmwc/tgmwc-19/tgmwc-19-185-03.shtml>)

These adverbs bear a logical function of signaling that the event expressed in the clause is a continuation from the event of the preceding clause. This fact is taken as another evidence for the main clause analysis of the NRC.

4) McCalwley (p. 451) talks of “adposition” to refer to the position the NRC occupies—a term that is to be contrasted with “adjunction” in which the moved constituent is combined to form a still larger constituent. That is, an NRC is formed by adposition (or is an adposit) whereas an RRC is formed by adjunction (or is an adjunct). This suggests that the tree of the RRC “grows” in terms of phrase structure whereas that of the NRC does not. This view is interesting when we take Chomsky’s (1995) Extension Condition into consideration.

5) It is interesting to take into consideration Kuno’s important observation about the relativization and thematization. Noting the fact that the RRC and thematization are deeply related, Kuno explicitly argues for what I call Kuno’s Generalization; “when Relativization is possible, Thematization is also possible (Kuno 1986, p. 249).” Notice that he is only involved in the analysis of the RRC. Based on the observations made by Postal with respect to the terms of the predicative nature, we notice there is a consistent array of exceptions to Kuno’s Generalization. As I talked about in the text, although these nouns cannot be topicalized (or thematized), they can be the antecedents of the RRCs (as in *I can’t stand the color which/that Bill painted his car*) but not of the NRCs (as in \**I can’t stand the color, which Bill painted his car*). The same holds with the predicate nominal. A predicate nominal cannot be topicalized, but it can be the antecedent of the RRC. That is, although we do not have \**A good bodyguard, Frank is*, we have a completely grammatical NRC form *He is a good bodyguard that his father used to be*. It should, however, be emphasized that these antecedent nouns are predicative in nature and hence different in their status from the ordinary nouns that function as arguments. Therefore, Kuno’s generalization is valid with regard to the argument NPs.

6) Further evidence comes from Safir’s observation that the NRC cannot license the parasitic gaps.

- (i) a. John is a man who<sub>i</sub> Bill, who knows Mary, admires t<sub>i</sub>. (No pg construction)  
 b. \*John is a man who<sub>i</sub> Bill, who knows e<sub>i</sub>, admires t<sub>i</sub>. (e<sub>i</sub> being a pg)

This fact will be taken up at section 6.

- 7) Here let us take note of what I referred to as something like free indirect speech. Free indirect speech is basically an interlocutor's indirect report of someone else's utterance but it is actually represented as a main clause, rather than in the form of the reported clause. Although the responsibility of the utterance lies in the person reported, superficially it looks as if the reporter himself or herself were responsible for the utterance. That is, what should be in the embedded clause is expressed as a main clause; in other words, free indirect speech is a main clause phenomenon. If so, there is no wonder if we perceive the free indirect flavor in the NRC as in the examples of (15) and (16) in the text.
- 8) Finally, I must admit that there is a crucial problem in my assumptions. If we assume that the two trees are only combined after Spell-Out, then the Condition C applies only at the PF level, but not at the LF level. Given that the PF matters are independent from interpretive matters like binding, we could pursue the direction in which the two independent trees are not combined until after binding relations are established. This conclusion is quite close to Safir's notion of LF'. But this poses another problem. If there is no inter-arboreal connection between (23a) and (23b) until after LF, then it is entirely unclear how the phonetic interpretation of the NRCs takes place in such a grammatical system. There is a grave difference between the pronunciation of (23a) and (23b), on the one hand, and the pronunciation of the complex sentence in which both are combined, on the other hand. It is true that this is a serious problem, but here I have to leave the inter-arboreal connection open for further research.

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